NC/QC/YPD/W3-02/2018-19/AL-G1 Date: 18-06-2018

TEST REPORT ON GRANULAR SUBBASE MIX
(GRADATION TEST)

Sub: To conduct tests on GSB (with close graded materials, Grade-II) mix.
{Project*: Providing cement concrete roads to 1st A main 2nd Main and cross roads at Attur Layout in Ward No.03.}
Ref.: Material testing/PMC/17-18,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Mr. Achutha Murthy K, Bangalore.

TEST RESULTS

1. **Gradation Test:**
TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
53.00	**100.00**	100
26.50	**99.05**	70-100
9.50	**62.80**	50-80
4.75	**47.35**	40-65
2.36	**41.55**	30-50
0.425	**12.10**	10-15
0.075	**3.90**	<5

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For Newzen Consultants Bangalore

Proprietor

Date: 18-06-2018

TABLE 1.2

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Water absorption, %	**0.42 %**	Not more than 2.0 %
2.	Liquid Limit, %	**18.52**	Not more than 25.0 %
3.	Plasticity Index, %	**NP**	Not more than 6.0 %
4.	Moisture Content, %	**7.18**	----------
5.	Aggregate Impact Value, %	**27.95**	Not more than 40.00 %

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NC/QC/YPD/W3-02/2018-19/AL-C3 **Date: 21-06-2018**

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Providing cement concrete roads to 1st A main 2nd Main and cross roads at Attur Layout in Ward No.03.}
Ref.: Material testing/PMC/17-18,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Mr. Achutha Murthy K, Bangalore.

PHYSICAL TESTS ON CEMENT

Brand : JAYPEE
Grade * : 53,
Type * : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 8112-1989
1	Initial setting time	**163 min**	Shall not be less than 30 min
2	Final setting time	**279 min**	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	**1.79 %**	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	**2.09 mm**	Shall not be more than 10 mm
5	Compressive strength b) 3 days (average of three results)	**27.96 N/Sq mm**	Shall not be less than 27 N/Sqmm

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NC/QC/YPD/W3-02/2018-19/AL-PCC2 **Date: 21-06-2018**

1. TESTING OF COARSE AND FINE AGGREGATES:

Sub: Testing of Coarse and Fine aggregates to be used for bed concrete.

{Project*: Providing cement concrete roads to 1st A main 2nd Main and cross roads at Attur Layout in Ward No.03.}

Ref.: Material testing/PMC/17-18,

Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Mr. Achutha Murthy K, Bangalore.

1. COARSE AGGRGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2007) % Passing	
	40 mm Sample	Single size	Graded
40mm	100.00	85-100	90 – 100
20mm	54.90	0 -20	30- 70
10mm	32.40	0 -5	10- 35
4.75mm	2.55	------	0- 5

2. FINE AGGREGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -III	
04.75	96.80	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	80.65	60-95	75-100	85-100	
01.18	74.10	30-70	55-90	75-100	
600 mic	57.95	15-34	35-59	60-79	
300 mic	21.50	5-20	8-30	12-40	
150 mic	7.85	0-10	0-10	0-10	

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NC/QC/YPD/W3-02/2018-19/AL-C4

Date: 23-06-2018

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).

{Project*: Providing cement concrete roads to 1st A main 2nd Main and cross roads at Attur Layout in Ward No.03.}

Ref.: Material testing/PMC/17-18,

Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Mr. Achutha Murthy K, Bangalore.

PHYSICAL TESTS ON CEMENT

Brand : JAYPEE
Grade * : 53,
Type * : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 8112-1989
1	Initial setting time	**176 min**	Shall not be less than 30 min
2	Final setting time	**282 min**	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	**1.51 %**	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	**2.16 mm**	Shall not be more than 10 mm
5	Compressive strength c) 3 days (average of three results)	**27.98 N/Sq mm**	Shall not be less than 27 N/Sqmm

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NC/QC/YPD/W3-02/2018-19/AL-PCC3 **Date: 23-06-2018**

1. TESTING OF COARSE AND FINE AGGREGATES:

Sub: Testing of Coarse and Fine aggregates to be used for bed concrete.

{Project*: Providing cement concrete roads to 1st A main 2nd Main and cross roads at Attur Layout in Ward No.03.}

Ref.: Material testing/PMC/17-18,

Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Mr. Achutha Murthy K, Bangalore.

1. COARSE AGGRGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2007) % Passing	
	40 mm Sample	Single size	Graded
40mm	100.00	85-100	90 – 100
20mm	66.30	0 -20	30- 70
10mm	31.75	0 -5	10- 35
4.75mm	4.05	------	0- 5

2. FINE AGGREGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -III	
04.75	97.10	90-100	90-100	90-100	The Sample Conforms to Grading Zone-II
02.36	84.65	60-95	75-100	85-100	
01.18	75.40	30-70	55-90	75-100	
600.mic	52.85	15-34	35-59	60-79	
300.mic	16.05	5-20	8-30	12-40	
150.mic	6.20	0-10	0-10	0-10	

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NC/QC/YPD/W3-02/2018-19/AL-C5 **Date: 26-06-2018**

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).

{Project*: Providing cement concrete roads to 1st A main 2nd Main and cross roads at Attur Layout in Ward No.03.}

Ref.: Material testing/PMC/17-18,

Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Mr. Achutha Murthy K, Bangalore.

PHYSICAL TESTS ON CEMENT

Brand : JAYPEE
Grade * : 53,
Type * : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 8112-1989
1	Initial setting time	**174 min**	Shall not be less than 30 min
2	Final setting time	**258 min**	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	**2.13 %**	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	**2.27 mm**	Shall not be more than 10 mm
5	Compressive strength d) 3 days (average of three results)	**28.19 N/Sq mm**	Shall not be less than 27 N/Sqmm

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NC/QC/YPD/W3-02/2018-19/AL-PCC4 **Date: 26-06-2018**

1. TESTING OF COARSE AND FINE AGGREGATES:

Sub: Testing of Coarse and Fine aggregates to be used for bed concrete.

{Project*: Providing cement concrete roads to 1st A main 2nd Main and cross roads at Attur Layout in Ward No.03.}

Ref.: Material testing/PMC/17-18,

Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Mr. Achutha Murthy K, Bangalore.

1. COARSE AGGRGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2007) % Passing	
	40 mm Sample	Single size	Graded
40mm	100.00	85-100	90 – 100
20mm	67.95	0 -20	30- 70
10mm	24.10	0 -5	10- 35
4.75mm	4.35	------	0- 5

2. FINE AGGREGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -III	
04.75	97.60	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	89.15	60-95	75-100	85-100	
01.18	62.70	30-70	55-90	75-100	
600 mic	44.90	15-34	35-59	60-79	
300 mic	24.55	5-20	8-30	12-40	
150 mic	5.80	0-10	0-10	0-10	

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NC/QC/YPD/W3-02/2018-19/AL-C6 **Date: 29-06-2018**

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Providing cement concrete roads to 1st A main 2nd Main and cross roads at Attur Layout in Ward No.03.}
Ref.: Material testing/PMC/17-18,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Mr. Achutha Murthy K, Bangalore.

PHYSICAL TESTS ON CEMENT

Brand : JAYPEE
Grade * : 53,
Type * : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 8112-1989
1	Initial setting time	**157 min**	Shall not be less than 30 min
2	Final setting time	**278 min**	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	**1.97 %**	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	**2.16 mm**	Shall not be more than 10 mm
5	Compressive strength e) 3 days (average of three results)	**29.23 N/Sq mm**	Shall not be less than 27 N/Sqmm

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NC/QC/YPD/W3-02/2018-19/AL-PCC5 **Date: 29-06-2018**

1. TESTING OF COARSE AND FINE AGGREGATES:

Sub: Testing of Coarse and Fine aggregates to be used for bed concrete.
{Project*: Providing cement concrete roads to 1st A main 2nd Main and cross roads at Attur Layout in Ward No.03.}
Ref.: Material testing/PMC/17-18,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Mr. Achutha Murthy K, Bangalore.

1. COARSE AGGRGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2007) % Passing	
	40 mm Sample	Single size	Graded
40mm	100.00	85-100	90 – 100
20mm	61.70	0 -20	30- 70
10mm	28.95	0 -5	10- 35
4.75mm	2.10	------	0- 5

2. FINE AGGREGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -III	
04.75	96.15	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	89.40	60-95	75-100	85-100	
01.18	73.60	30-70	55-90	75-100	
600 mic	36.25	15-34	35-59	60-79	
300 mic	12.70	5-20	8-30	12-40	
150 mic	7.05	0-10	0-10	0-10	

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NC/QC/YPD/W3-02/2018-19/AL-C7 Date: 30-06-2018

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Providing cement concrete roads to 1st A main 2nd Main and cross roads at Attur Layout in Ward No.03.}
Ref.: Material testing/PMC/17-18,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Mr. Achutha Murthy K, Bangalore.

PHYSICAL TESTS ON CEMENT

Brand : JAYPEE
Grade * : 53,
Type * : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 8112-1989
1	Initial setting time	**158 min**	Shall not be less than 30 min
2	Final setting time	**264 min**	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	**2.02 %**	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	**2.37 mm**	Shall not be more than 10 mm
5	Compressive strength a) 3 days (average of three results)	**27.94 N/Sq mm**	Shall not be less than 27 N/Sqmm

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NC/QC/YPD/W3-02/2018-19/AL-FA2 Date: 30-06-2018

1. TESTING OF FINE AGGREGATES :

Sub: Testing of Fine Aggregates.

{Project*: Providing cement concrete roads to 1st A main 2nd Main and cross roads at Attur Layout in Ward No.03.}

Ref.: Material testing/PMC/17-18,

Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Mr. Achutha Murthy K, Bangalore.

TABLE - 1.1 : SIEVE ANALYSIS :

IS Sieve Size,mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -II	
04.75	**98.30**	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	**81.75**	60-95	75-100	85-100	
01.18	**64.95**	30-70	55-90	75-100	
600. mic	**39.40**	15.34	35-59	60-79	
300.mic	**10.15**	5-20	8-30	12-40	
150.mic	**6.65**	0-10	0-10	0-10	

TABLE 1.2 ;

Sl No	Test Conducted	Sample	Results	**Requirements** as Per IS. Specification IS :383-1970 (Reaffirmed 2002)
1	Bulking of Sand	001	**18.17 %**	-----
2	Silt Content	----	**0.54 %**	Not more than 8%
3	Specific Gravity	----	**2.61**	-------

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Page No. 1/1,

For Newzen Consultants Bangalore

Proprietor

NC/QC/YPD/W3-02/2018-19/AL-CA2 **Date: 30-06-2018**

1. TESTING OF COARSE AGGREGATES (20 mm):

Sub: Testing of Construction Materials.

{Project*: Providing cement concrete roads to 1st A main 2nd Main and cross roads at Attur Layout in Ward No.03.}

Ref.: Material testing/PMC/17-18,

Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Mr. Achutha Murthy K, Bangalore.

Table - 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2002) % Passing	
	20 mm Sample	Single size	Graded
40 mm	100.00	100.00	100.00
20 mm	98.35	85-100	90 - 100
10 mm	41.95	0 - 20	25 - 55
4.75 mm	6.80	0 - 5	0 - 10

TABLE 1.2 :

SL No	Test conducted	Results	Requirements as per IS:383-1970 & Tests Conforms to IS 2386(Part I to IV) – 1963 (Reaffirmed on 2002)
1.	Flakiness Index	20.01 %	Not to exceed 25 %
2.	Crushing value	27.94 %	Not to exceed 45 % for concrete other than for wearing surfaces and 30% for concrete for wearing surfaces

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NC/QC/YPD/W3-02/2018-19/AL-CB5 **Date: 10-07-2018**

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 07days Compressive Strength).

{Project*: Providing cement concrete roads to 1st A main 2nd Main and cross roads at Attur Layout in Ward No.03.}

Ref.: Material testing/PMC/17-18,

Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Mr. Achutha Murthy K, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	03-07-18	10-07-18	07	22500	345	15.33	**15.93**
	002	"	"	"	"	375	16.67	
	003	"	"	"	"	355	15.78	

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For Newzen Consultants Bangalore

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NC/QC/YPD/W3-02/2018-19/AL-CB6 **Date: 10-07-2018**

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 07days Compressive Strength).
{Project*: Providing cement concrete roads to 1st A main 2nd Main and cross roads at Attur Layout in Ward No.03.}
Ref.: Material testing/PMC/17-18,
Report Required for: Assistant Executive Engineer,
Yelahanka Project Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Mr. Achutha Murthy K, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	03-07-18	10-07-18	07	22500	360	16.00	**16.37**
	002	"	"	"	"	370	16.44	
	003	"	"	"	"	375	16.67	

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